DoD M&S Master Plan Update & Status Report to MSRR BOD Sept 4, 2001

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Discussion

- **Why we need an MSMP at the DoD (enterprise) level**
  - Establish/identify major DoD M&S challenges
    - Common focus for Component-level plans
  - Framework to manage/chart the progress toward the DoD M&S Vision
    - Demonstrate Integration & Cooperation
    - Identify and de-conflict Resource issues
    - Establish & describe Departmental priorities
  - Provides the means for M&S to make the DoD more effective and efficient
  - A reference document for the USD(AT&L) to use in support and defense of M&S

REFRESHER: What this Plan <u>IS</u>

- **Common, inter-related DoD M&S objectives focused on what's important to the Department of Defense**

- **A policy statement that affords DoD Components maximum leeway to address common M&S objectives from their own perspectives**

- **A strategic-level document to focus the Department's efforts to make M&S more affordable, usable, interoperable, reuseable, etc**

- **The outline of a process and goals for the EXCIMS and USD(AT&L) to use to ensure M&S increases the efficiency and effectiveness of the Department's full array of missions and functions**

- **The "WHAT is to be done" but not the "HOW it is to be done"**

REFRESHER: What this Plan <u>IS NOT</u>

- A detailed explanation of how objectives and milestones will be met

- An unfunded mandate requiring Components to focus exclusively on listed objectives and sub-objectives

- A new requirement to develop DoD and Component M&S Master and Investment Plans—already required by DoD Directive 5000.59

- A delineation of new responsibilities for the EXCIMS

- A DMSO Master Plan or the DMSO's role in executing the plan

- A substitute for guidance or direction that should be developed by individual OSD and DoD Components

- About the use/application of M&S in any one functional area or domain

Strategic perspective on DoD MSMP

- **Common focus for <u>Component-level plans</u>**

  – A guide? (*no*)

  – How to? (*no*)

    - Tell the Components what to do? (*no*)

    - Tell the Components how to do it? (*no*)

    - Tell the Components when to do it? (*no*)

Describes **What** needs to be done…leaves **<u>how</u>** up to you…

Responses to-date:
(A General Characterization)

There appears to be <u>general agreement that</u>:

- **The 5 Objectives are valid**

- **There are too many sub-objectives**

- **There are too many milestones**

- **There should be an assignment of responsibilities**

- **The plan should remain at the strategic-level**

- **The format must be conducive to Component flexibility**

- <u>**NOTE: Approximately 50% response so far – (end of July due date)**</u>

Responses to-date:
(A General Characterization)

There are differing views:

   Sub-objectives & Milestones...

   are either: **- too aggressive,**

                   - already complete,

                   - or too hard to do

   Draft DoD MSMP...

   is either: **- an unintegrated collection of miscellany,**

                   - or too detailed,

                   - or well written

Responses to-date:
(A General Characterization)

There are differing views on metrics :

   - Metrics (as part of milestones) need to be:

- **Left as is**

- **Tightened**

- **Loosened**

- **Deleted**

- **Redefined**

Responses to-date:
(A General Characterization)

There are differing views on expectations… i.e. "where is:

- **DMSO? SEDRIS? HLA? Warfighter? C4I-to-Simulation?**

- **JSIMS/JWARS/JMASS/[*your simulation here*]?**

- **JV 2020?**

- **Defense Transportation System?**

- **DoD/Joint Mission Areas?**

- **SBA?**

    Etc?

Proposed Fixes

- **Establish and agree on Overall performance management-type goal (discussion to follow)**
- **Reduce number of sub-objectives**
- **List main objectives "up front"**
- **Move sub-objectives to enclosure**
- **Address perceived sub-objective overlap - integrate across sub-objectives**
- **Re-address metrics & milestones – fewer?**

No prescribed or mandated Component priorities or resource assignments

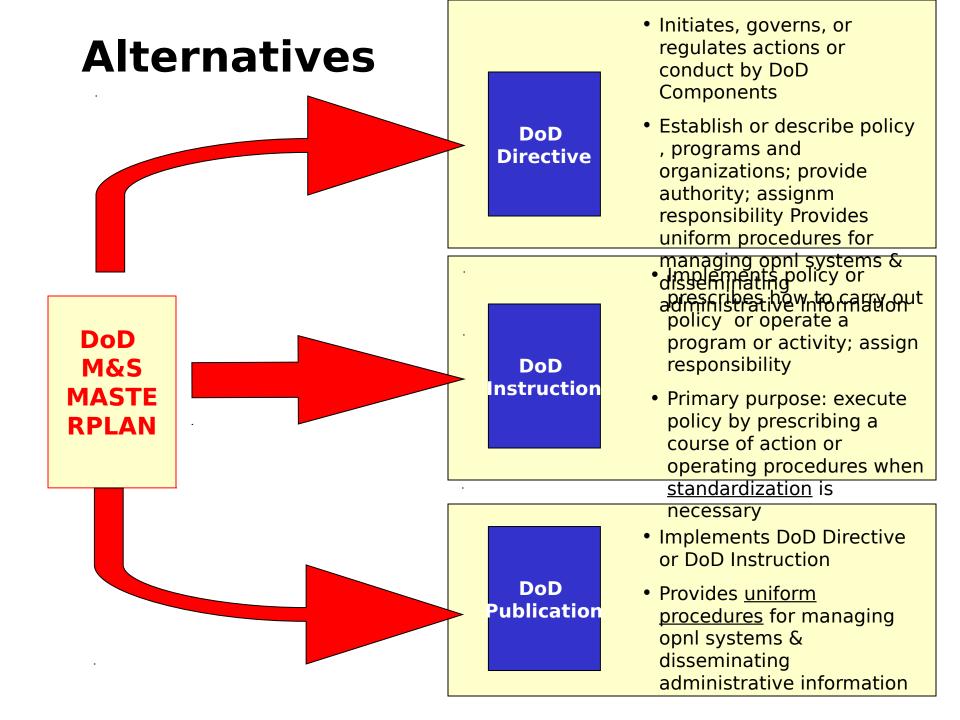**Ownership of management responsibilities unchanged**

Component flexibility remains foremost

Summary / Conclusion

- **Still awaiting inputs from some EXCIMS Members**

- **The story so far:**

  - **General consensus on objectives**

  - **Smaller document needed**

  - **Performance Management**

    - **…**

    - **…**

  - **Thanks for Your Hard Work**

- Fair amount of effort expended

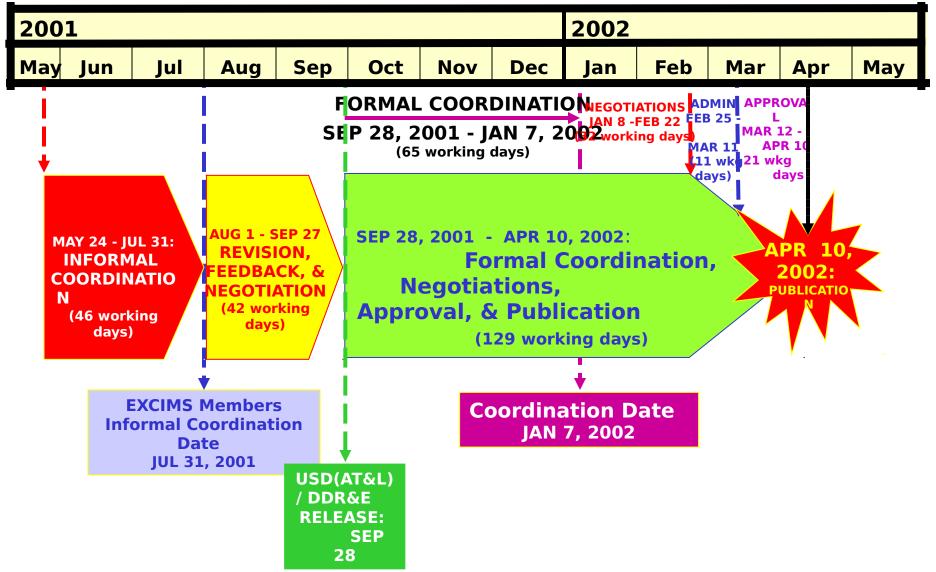- Many thoughtful ideas and suggestion received

Next steps

Back up Slides

Alternatives

DoD M&S MASTERPLAN

DoD Directive

- Initiates, governs, or regulates actions or conduct by DoD Components
- Establish or describe policy , programs and organizations; provide authority; assignm responsibility Provides uniform procedures for managing opnl systems & disseminating administrative Information

DoD Instruction

- Implements policy or prescribes how to carry out policy or operate a program or activity; assign responsibility
- Primary purpose: execute policy by prescribing a course of action or operating procedures when standardization is necessary

DoD Publication

- Implements DoD Directive or DoD Instruction
- Provides uniform procedures for managing opnl systems & disseminating administrative information

1995 and Draft M&S Master Plan Objectives: Mapping

1995

Objective 1 Common Technical Framework

1.1. High Level Architecture

1.2. Conceptual Models of the Mission Space

1.3. Data Standardization

2.1. Terrain

2.2. Oceans

2.3. Atmosphere

2.4. Space

Objective 3 Authoritative Representation of

Behavior

4.1. Individuals

4.2. Groups and Organizations

5.1. Field M&S Systems

5.2. Verification, Validation & Accreditation

5.3. Repositories

5.4. Communications

5.5. Coordination Center

6.1. Quantify Impact

DRAFT

Objective 1 M&S Usability and Affordability

1.1.   M&S Usability

1.2. DoD M&S Needs & Requirements System

1.3.   Acquisition & Fielding of M&S Systems

1.4. Automating M&S Systems Workflow

1.5. Integrating M&S into End-User Systems

1.6. M&S Affordability

Objective 2 M&S Standards, Standardization & Reuse

2.1. M&S Standards and Standardization

2.2. Leverage technology, standards & practices

23. Foster M&S Reuse

Objective 3 Authoritative Representations

2.1. Natural Environment

2.2. Human Behavior

2.3. Systems

2.4. Verification, Validation & Accreditation

2.5. Cross Domain Interactions

Objective 3 M&S Physical Infrastructure

3.1. Security Requirements

3.2. Leveraging Technology & Processes

3.3. M&S Research and Development

3.4. Human-Simulation Interface

Objective 4 Ready Access to M&S Resources

4.1. M&S Education & Training

4.2. Common Access to M&S Resources

4.3. M&S Resource Repositories

4.4. Technology Transfer

DERIVED sub-objectives

DoD M&S Master Plan Timeline:
May 2001 - May 2002

2001								2002				
May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

FORMAL COORDINATION
SEP 28, 2001 - JAN 7, 2002
(65 working days)

NEGOTIATIONS JAN 8 -FEB 22 (32 working days)

ADMIN FEB 25 - MAR 11 (11 wkg days)

APPROVAL MAR 12 - APR 10 (21 wkg days)

MAY 24 - JUL 31: INFORMAL COORDINATION (46 working days)

AUG 1 - SEP 27 REVISION, FEEDBACK, & NEGOTIATION (42 working days)

SEP 28, 2001 - APR 10, 2002:
Formal Coordination, Negotiations, Approval, & Publication
(129 working days)

APR 10, 2002: PUBLICATION

EXCIMS Members Informal Coordination Date
JUL 31, 2001

USD(AT&L) / DDR&E RELEASE: SEP 28

Coordination Date
JAN 7, 2002

DoD M&S Vision

Defense modeling and simulation will provide readily-available, operationally-valid environments for use by DoD components

- **to train jointly, develop doctrine and tactics, formulate operational plans, and assess war fighting situations**
- **as well as to support technology assessment, system upgrade, prototype and full scale development, and force structuring.**

Furthermore, common use of these environments will promote a closer interaction between the operations and acquisition communities in carrying out their respective responsibilities. To allow maximum utility and flexibility, these modeling and simulation environments will be constructed from affordable, reusable components interoperating through an open systems architecture.

Approved by the USD(A) at March 12, 1992, DoD EXCIMS Mtg & Reaffirmed by the EXCIMS at their May 12, 1999, Meeting

Draft DoD M&S Objectives

OBJECTIVE 1	OBJECTIVE 2	OBJECTIVE 3	OBJECTIVE 4	OBJECTIVE 5
M&S USABILITY AND AFFORDABILITY	**M&S INTEROPERABILITY & REUSE**	**AUTHORITATIVE REPRESENTATIONS**	**DoD M&S INFRASTRUCTURE**	**READY ACCESS TO M&S RESOURCES**

SUB-OBJECTIVES:	SUB-OBJECTIVES:	SUB-OBJECTIVES:	SUB-OBJECTIVES:	SUB-OBJECTIVES:
1.1 M&S USABILITY	2.1. STANDARDS & STANDARDIZATION PROGRAM	3.1 ENVIRONMENTAL REPRESENTATIONS	4.1 SECURITY REQUIREMENTS	5.1 M&S EDUCATION & TRAINING
1.2. DoD M&S NEEDS & REQUIREMENTS SYSTEM	2.2. COMMERCIAL TECHNOLOGIES	3.2. HUMAN BEHAVIOR REPRESENTATIONS	4.2. LEVERAGING TECHNOLOGIES & PROCESSES	5.2. READY ACCESS TO M&S RESOURCES
1.3. ACQUISITION & FIELDING OF M&S SYSTEMS	2.3. M&S REUSE	3.3. SYSTEMS REPRESENTATIONS	4.3. M&S RESEARCH & DEVELOPMENT	5.3. M&S RESOURCE REPOSITORIES
1.4. AUTOMATING M&S SYSTEM SUPPORT		3.4. VERIFICATION, VALIDATION, & ACCREDITATION (VV&A)	4.4. HUMAN SIMULATION INTERFACE	5.4. M&S TECHNOLOGY TRANSFER
1.5. INTEGRATING M&S INTO END-USER SYSTEMS		3.5. CROSS-DOMAIN INTERACTIONS		
1.6. M&S AFFORDABILITY				

DRAFT Master Plan Milestones

Fiscal Year													
Objectives +Sub-objectives													

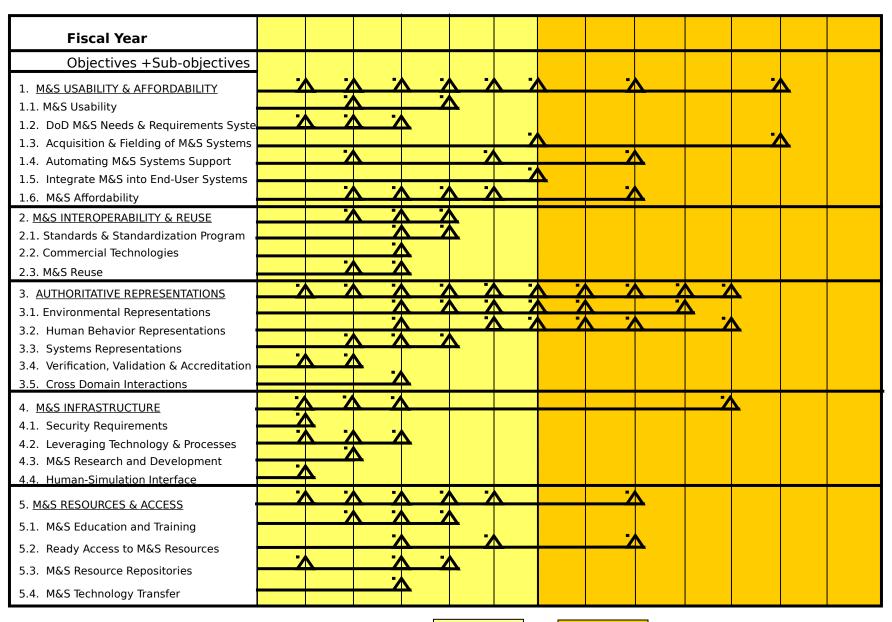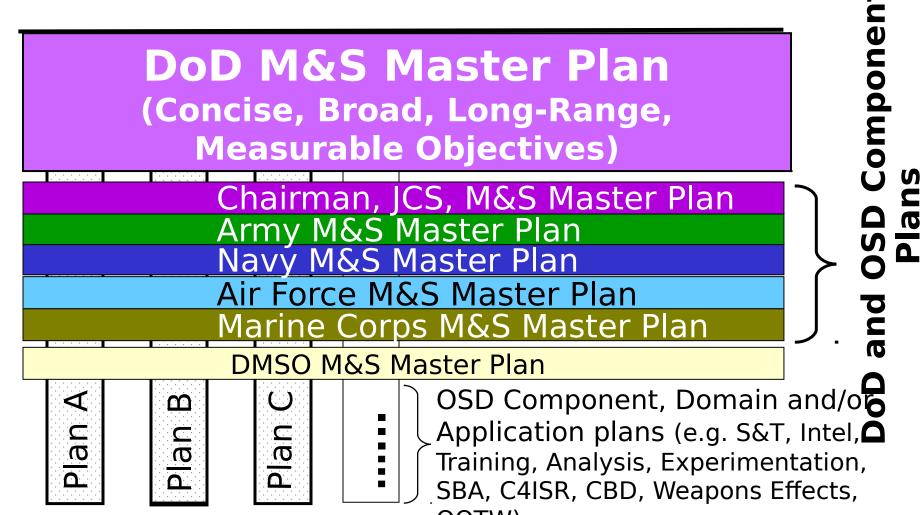| Objectives +Sub-objectives |
|---|
| 1. M&S USABILITY & AFFORDABILITY |
| 1.1. M&S Usability |
| 1.2. DoD M&S Needs & Requirements System |
| 1.3. Acquisition & Fielding of M&S Systems |
| 1.4. Automating M&S Systems Support |
| 1.5. Integrate M&S into End-User Systems |
| 1.6. M&S Affordability |
| 2. M&S INTEROPERABILITY & REUSE |
| 2.1. Standards & Standardization Program |
| 2.2. Commercial Technologies |
| 2.3. M&S Reuse |
| 3. AUTHORITATIVE REPRESENTATIONS |
| 3.1. Environmental Representations |
| 3.2. Human Behavior Representations |
| 3.3. Systems Representations |
| 3.4. Verification, Validation & Accreditation |
| 3.5. Cross Domain Interactions |
| 4. M&S INFRASTRUCTURE |
| 4.1. Security Requirements |
| 4.2. Leveraging Technology & Processes |
| 4.3. M&S Research and Development |
| 4.4. Human-Simulation Interface |
| 5. M&S RESOURCES & ACCESS |
| 5.1. M&S Education and Training |
| 5.2. Ready Access to M&S Resources |
| 5.3. M&S Resource Repositories |
| 5.4. M&S Technology Transfer |

Legend: Short-term　　　Long-term

Relationship

DoD M&S Master Plan
(Concise, Broad, Long-Range, Measurable Objectives)

Chairman, JCS, M&S Master Plan

Army M&S Master Plan

Navy M&S Master Plan

Air Force M&S Master Plan

Marine Corps M&S Master Plan

DMSO M&S Master Plan

Plan A

Plan B

Plan C

OSD Component, Domain and/or Application plans (e.g. S&T, Intel, Training, Analysis, Experimentation, SBA, C4ISR, CBD, Weapons Effects, OOTW)

DoD and OSD Component Plans

- <u>Traceable</u> to Strategic DoD M&S Objectives
- Milestones
- Investments